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1	US 20040138666	U	20040715	12	Flexible
2	US 20040098015	U	20040520	40	Inflatab
3	US 20040078081	U	20040422	4	Bioreso
4	US 20040034429	U	20040219	102	Anchored
5	US 20040034351	U	20040219	17	Techniqu
6	US 20040030392	U	20040212	102	Method
7	US 20030233147	U	20031218	21	Device
8	US 20030220694	U	20031127	14	Interve
9	US 20030220693	U	20031127	14	Interve
10	US 20030220690	U	20031127	14	Interve
11	US 20030195632	U	20031016	8	Spinal
12	US 20030187508	U	20031002	12	Spinal
13	US 20030187507	U	20031002	12	Spinal
14	US 20030181983	U	20030925	12	Spinal
15	US 20030181800	U	20030925	55	Methods
16	US 20030163200	U	20030828	13	Spinal
17	US 20030158604	U	20030821	74	Spinal
18	US 20030153976	U	20030814	69	Spinal
19	US 20030120345	U	20030626	14	Spinal
20	US 20030105527	U	20030605	14	Apparatu
21	US 20030088251	U	20030508	24	Devices
22	US 20030028196	U	20030206	102	Method
23	US 20020189622	U	20021219	64	Spinal
24	US 20020151980	U	20021017	14	Interve
25	US 20020151979	U	20021017	177	Devices
26	US 20020123807	U	20020905	17	Spinal
27	US 20020120337	U	20020829	14	Interve
28	US 20020120270	U	20020829	22	Flexible
29	US 20020111688	U	20020815	14	Interve
30	US 20020107572	U	20020808	8	Spinal
31	US 20020107570	U	20020808	17	Biocompa
32	US 20020072806	U	20020613	21	Soft an
33	US 20020032483	U	20020314	20	Apparatu
34	US 20020007218	U	20020117	14	Spinal
35	US 20010031967	U	20011018	19	Dovetai
36	US 20010020188	U	20010906	34	Selecti
37	US 6752831 B2	U	20040622	17	Biocompa
38	US 6733531 B1	U	20040511	30	Anchorin
39	US 6679887 B2	U	20040120	20	Surgical
40	US 6652592 B1	U	20031125	21	Segmenta
41	US 6592625 B2	U	20030715	14	Spinal
42	US 6576017 B2	U	20030610	7	Spinal
43	US 6261295 B1	U	20010717	19	Cutting
44	US 6261293 B1	U	20010717	20	End cut
45	US 6258094 B1	U	20010710	20	Surgical
46	US 6241769 B1	U	20010605	18	Implant
47	US 6241733 B1	U	20010605	20	Tome app
48	US 6096080 A	U	20000801	20	Apparatu

Detail Description Paragraph - DETX (5):

[0033] To function effectively in repairing the spine, the biocompatible osteogenic band, particularly when fabricated in whole or in part from biological material such as bone, tendon, ligament, and small intestine submucosa tissue, is first processed to clean the tissue of blood and debris, and to sterilize the tissue by routine procedures as described below. The processed tissue is then fashioned into one or more elongated sections. The dimensions of an elongated section are selected so that the material possesses sufficient length to span and be affixed to the affected vertebrae, and also possesses sufficient width and thickness to impart toughness, flexibility and strength to the section. One skilled in the art will recognize that the elongated section of material, particularly an elongated section of bone, can be further cut or machined by any convenient method into a variety of different shapes as shown in FIGS. 1A-1C. For example, FIG. 1A schematically depicts one embodiment of an elongated section of bone which is further cut or machined to provide end and middle portions possessing the same width. FIGS. 1B-1C schematically depict other embodiments wherein an elongated section of bone is further cut or machined to provide end portions possessing a greater width than the middle portion, and end portions having a round (FIG. 1B) or square (FIG. 1C) configuration that tapers off. Likewise, the processed tissue, when fibrous or prepared as thin sections, can be woven or knitted to form a cloth-like material useful as the biocompatible osteogenic band herein. Another configuration of a biocompatible osteogenic band useful in the practice of the invention herein would be a composite structure such as a central core of demineralized monolithic bone surrounded by a weave of bioabsorbable fibers. The anchoring of the implant would be assisted by the bioabsorbable fibers while the demineralized monolithic bone core would provide osteogenic characteristics. The term "monolithic" as utilized herein refers to a unitary portion of bone having a total surface area of at least 40 mm.sup.3.

Detail Description Paragraph - DETX (15):

[0043] In a particularly useful embodiment, the elongated bone section or sections are segmentally demineralized. The term "segmentally demineralized" as applied to the elongated bone section(s) refers to elongated bone section(s) wherein one or both end portions of the bone section(s) remain fully mineralized or are surface demineralized and the middle portion of the bone section(s) is fully or partially demineralized. The extent of demineralization of the segmentally demineralized bone section is generally up to about 10 percent for one or both end portions and at least 50 percent for the middle portion. The fully or partially demineralized middle portion imparts to the elongated bone section(s) sufficient flexibility and strength to allow that portion of the bone section to bear the load of the posterior spine, while each end portion of the elongated bone section(s) is securely affixed to the vertebral body at the sites of affixation. FIG. 2 schematically depicts a segmentally demineralized bone section possessing fully mineralized end portions 3 and a partially demineralized middle portion 4. The segmentally demineralized bone section can be prepared by procedures known in the art as

EAST Browser - L9: (48) 8 and 4 same... | US 20020107570 A1 | Tag: S | Doc: 31/48 (SORTED) | Format : KWIC

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	Document ID	K	Sc	Issue Da	Pag	Titl
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12	US 20030187508	U		20031002	12	Spinal o
13	US 20030187507	U		20031002	12	Spinal o
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21	US 20030088251	U		20030508	24	Devices
22	US 20030028196	U		20030206	102	Method o
23	US 20020189622	U		20021219	64	Spinal o
24	US 20020151980	U		20021017	14	Interver
25	US 20020151979	U		20021017	177	Devices
26	US 20020123807	U		20020905	17	Spinal o
27	US 20020120337	U		20020829	14	Interver
28	US 20020120270	U		20020829	22	Flexible
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30	US 20020107572	U		20020808	8	Spinal i
31	US 20020107570	U		20020808	17	Biocompa
32	US 20020072806	U		20020613	21	Soft and
33	US 20020032483	U		20020314	20	Apparatu
34	US 20020007218	U		20020117	14	Spinal o
35	US 20010031967	U		20011018	19	Dovetail
36	US 20010020188	U		20010906	34	Selectiv
37	US 6752831 B2	U		20040622	17	Biocompa
38	US 6733531 B1	U		20040511	30	Anchorin
39	US 6679887 B2	U		20040120	20	Surgical
40	US 6652592 B1	U		20031125	21	Segmenta
41	US 6592625 B2	U		20030715	14	Spinal o
42	US 6576017 B2	U		20030610	7	Spinal i
43	US 6261295 B1	U		20010717	19	Cutting
44	US 6261293 B1	U		20010717	20	End cut
45	US 6258094 B1	U		20010710	20	Surgical
46	US 6241769 B1	U		20010605	18	Implant
47	US 6241733 B1	U		20010605	20	Tome app
48	US 6096080 A	U		20000801	20	Apparatu

Detail Description Paragraph - DETX (19):

[0047] The flexible demineralized bone sections can be arranged to form a variety of different structures as shown in FIGS. 3A-3E. For example, three or more demineralized, elongated bone sections can be woven together to form a braid (FIG. 3A). A plurality of demineralized, elongated bone sections can be aligned longitudinally and twisted together to form a multi-bone section bundle, which can then be used to form a multi-bone section braid of three or more bundles (FIG. 3B). The demineralized bone sections can be longitudinally aligned to form a single untwisted bundle (FIG. 3C) or twisted to form a single-twisted bundle (FIG. 3D). Two or more bundles of multi-bone sections can be wrapped around each other to form a two or more bundle helix (FIG. 3E). The end of the tension band is sealed into a mesh tube 5 made from a bioabsorbable or non-bioabsorbable polymer.

Detail Description Paragraph - DETX (36):

[0064] The biocompatible osteogenic band can also be fabricated in whole or in part from ligament tissue. Ligament tissue itself is not osteogenic, but can be made osteogenic by the incorporation of various osteogenic components as described above. Ligament tissue which is useful in fabricating the tension band can comprise an entire excised ligament, or at least one elongated section of ligament or a plurality of elongated sections of ligament. Ligament tissue can be obtained from an autogeneic, allogeneic or xenogeneic source, and preferably is obtained from an autogeneic or allogeneic source. The whole ligament can be excised from the source by techniques well known in the art and utilized in its entirety or cut longitudinally into an elongated section or sections of ligament using conventional techniques known in the art. The whole ligament or section(s) of ligament can be further cut to the desired size to conform to the region of the posterior spine being repaired. Ligament tissue obtained from an allogeneic or xenogeneic source can be further treated by various agents to reduce its antigenicity or with various medically/surgically useful substances as described above.

Detail Description Paragraph - DETX (49):

[0077] The biocompatible osteogenic band described herein can be affixed to at least one site on each of two or more vertebrae at any region of the anterior or posterior spine in need of repair, preferably the posterior spine, and more preferably the lumbar region which bears heavier loads than other regions of the posterior spine. The site of affixation on each vertebra includes, but is not limited to, a vertebral body, pedicle, transverse process, mamillary process, inferior articular process, superior articular process, spinous process and accessory process. Preferably the site of affixation is the pedicle. FIG. 4 is a diagrammatic right lateral view of the described biocompatible osteogenic band 7 affixed to the transverse processes of lumbar vertebrae.

Detail Description Paragraph - DETX (50):

[0078] Selection of the particular two or more vertebrae for affixation of

EAST Browser - L9: (48) 8 and 4 same... | US 20020107570 A1 | Tag: S | Doc: 31/48 (SORTED) | Format : KWIC

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	Document ID	Kind	Issue Da	Pag	Titl
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6	US 20040030392	U	20040212	102	Method c
7	US 20030233147	U	20031218	21	Device f
8	US 20030220694	U	20031127	14	Interver
9	US 20030220693	U	20031127	14	Interver
10	US 20030220690	U	20031127	14	Interver
11	US 20030195632	U	20031016	8	Spinal i
12	US 20030187508	U	20031002	12	Spinal c
13	US 20030187507	U	20031002	12	Spinal c
14	US 20030181983	U	20030925	12	Spinal c
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17	US 20030158604	U	20030821	74	Spinal c
18	US 20030153976	U	20030814	69	Spinal c
19	US 20030120345	U	20030626	14	Spinal c
20	US 20030105527	U	20030605	14	Apparatu
21	US 20030088251	U	20030508	24	Devices
22	US 20030028196	U	20030206	102	Method c
23	US 20020189622	U	20021219	64	Spinal c
24	US 20020151980	U	20021017	14	Interver
25	US 20020151979	U	20021017	177	Devices
26	US 20020123807	U	20020905	17	Spinal c
27	US 20020120337	U	20020829	14	Interver
28	US 20020120270	U	20020829	22	Flexible
29	US 20020111688	U	20020815	14	Interver
30	US 20020107572	U	20020808	8	Spinal i
31	US 20020107570	U	20020808	17	Biocompa
32	US 20020072806	U	20020613	21	Soft and
33	US 20020032483	U	20020314	20	Apparatu
34	US 20020007218	U	20020117	14	Spinal c
35	US 20010031967	U	20011018	19	Dovetail
36	US 20010020188	U	20010906	34	Selectiv
37	US 6752831 B2	U	20040622	17	Biocompa
38	US 6733531 B1	U	20040511	30	Anchorin
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40	US 6652592 B1	U	20031125	21	Segmenta
41	US 6592625 B2	U	20030715	14	Spinal c
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47	US 6241733 B1	U	20010605	20	Tome app
48	US 6096080 A	U	20000801	20	Apparatu

Detail Description Paragraph - DETX (53):

[0081] In a particularly useful embodiment, the present method is utilized in conjunction with other known methods for repairing the spine, particularly intervertebral spinal fusion, which is often performed to treat an anomaly involving an intervertebral disc caused by injury, disease or a degenerative disorder. Intervertebral spinal fusion is typically carried out by completely removing the intervertebral disc and inserting an anterior supporting structure 8, inside the interbody, interdiscal space to facilitate repair and healing (see FIG. 6). Over time, bone grows across the anterior supporting structure and the adjacent vertebrae grow together and fuse.

Detail Description Paragraph - DETX (54):

[0082] Various types of anterior supporting structures have been employed in intervertebral spinal fusion and are well known in the art such as a plug, bone dowel, prosthesis, cage device, bone graft, e.g., a machined allograft or autograft bone substitute, femoral ring, iliac crest graft, fibula, etc. For example, U.S. Pat. Nos. 4,834,757 and 4,878,915, each incorporated herein by reference, describe the use of plugs which are inserted into the disc space. In U.S. Pat. No., 4,834,757 the plug is a biocompatible composite cage which is intended to contain autologous or allogeneic bone to facilitate and promote bone ingrowth. In U.S. Pat. No. 4,878,915 the plug is a solid device containing barbs for biting into the bone as well as spaces between the barbs to facilitate bone ingrowth. U.S. Pat. No. 5,895,428, incorporated herein by reference, describes an implant having an upper member which pivots and is locked to a lower member. The upper portion of the upper member and the lower portion of the lower member engage adjacent vertebra and have ceramic surfaces which allow bone ingrowth. U.S. Pat. No. 5,899,939, incorporated herein by reference, describes a dowel-shaped bone-derived implant. U.S. Pat. No. 6,045,580, incorporated herein by reference, describes a bone implant derived from the iliac crest. U.S. Pat. No. 5,972,368, incorporated herein by reference, describes the use of bone graft substitute compositions and spacers which include a body composed of a deactivated bone graft. The body of the spacer can include flat spacers, bone dowels, cortical rings, bone chips and other suitably shaped bone pieces. Bone dowels from allogeneic femoral or tibial condyles are also commercially available from Osteotech, Inc. Medically/surgically useful substances and osteogenic components as described above with respect to the tension band can also be incorporated in, or associated with, the anterior supporting structure.

Detail Description Paragraph - DETX (55):

[0083] FIG. 6 depicts a biocompatible osteogenic band 7 used in conjunction with an anterior supporting structure 8 to repair a spinal disorder. The anterior supporting structure 8 is inserted in the disc space between adjacent vertebrae prior to affixing the biocompatible osteogenic band 7 to the adjacent vertebrae of the posterior spine. For example, after the anterior supporting structure 8 is inserted in the disc space between the adjacent vertebrae, the biocompatible osteogenic band 7 can be affixed to the posterior spine by

EAST Browser - L9: (48) 8 and 4 same... | US 20020107572 A1 | Tag: S | Doc: 30/48 (SORTED) | Format : KWIC

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	Document ID	K	So	Issue Da	Pag	Titl
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8	US 20030220694		U	20031127	14	Interve
9	US 20030220693		U	20031127	14	Interve
10	US 20030220690		U	20031127	14	Interve
11	US 20030195632		U	20031016	8	Spinal
12	US 20030187508		U	20031002	12	Spinal
13	US 20030187507		U	20031002	12	Spinal
14	US 20030181983		U	20030925	12	Spinal
15	US 20030181800		U	20030925	55	Methods
16	US 20030163200		U	20030828	13	Spinal
17	US 20030158604		U	20030821	74	Spinal
18	US 20030153976		U	20030814	69	Spinal
19	US 20030120345		U	20030626	14	Spinal
20	US 20030105527		U	20030605	14	Apparatu
21	US 20030088251		U	20030508	24	Devices
22	US 20030028196		U	20030206	102	Method
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24	US 20020151980		U	20021017	14	Interve
25	US 20020151979		U	20021017	177	Devices
26	US 20020123807		U	20020905	17	Spinal
27	US 20020120337		U	20020829	14	Interve
28	US 20020120270		U	20020829	22	Flexible
29	US 20020111688		U	20020815	14	Interve
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48	US 6096080 A		U	20000801	20	Apparatu

Detail Description Paragraph - DETX (5):

[0022] Referring further to FIG. 2, flexible ligament 14 is secured to body portion 12 between the endplates of the adjacent vertebrae. Ligament 14 has an upper ligament portion 15 that extends in the superior direction along at least a portion of upper vertebral body V1. Flexible ligament 14 also includes a lower ligament portion 16 that extends in the inferior direction along at least a portion of the height of lower vertebral body V2. It is also contemplated that upper portion 15 can extend superiorly to the vertebral body positioned above vertebral body VI, and that lower portion 16 can extend inferiorly to the vertebral body positioned below vertebral body V2. Although upper portion 15 and lower portion 16 are illustrated as having a rectangular shape, other shapes for ligament 14 are also contemplated, such as triangular, square, circular, and other multi-sided and curved shapes. Upper portion 15 can have a first fastener bore 20 for receiving a first fastener 24 and lower portion 16 can have a second fastener bore 22 for receiving a second fastener 26. The fasteners of the present invention can be in the form of a threaded screw and made from metal, bone, polymer, bio-absorbable or resorbable material, or other material known in the art.

Detail Description Paragraph - DETX (7):

[0024] Body portion 12 has a cavity 18 to provide an area to receive material that promotes bony incorporation and fusion. Prior to positioning body portion 12 into the disc space, bone growth promoting material 28 may be positioned in cavity 18 to encourage bone growth into and through body portion 12. Bone growth material can be any type of material known in the art. It is further contemplated that body portion 12 can be provided without a cavity for procedures in which spinal fusion is not desired.

Detail Description Paragraph - DETX (10):

[0027] In one specific application, implant 10 is positioned from an anterior approach is for fusion of the cervical spine. Body portion 12 can have any shape, including a specific shape for insertion in the disc space in the cervical region, such as those shapes and configurations identified in U.S. Pat. No. 5,989,289 which is incorporated herein by reference in its entirety. In another specific application, implant 10 is positioned from an anterior approach to the lumbar spine. In these applications, body portion 12 can have a shape adapted for insertion in the disc space in the lumbar region of the spine, such as those shapes and configurations shown in U.S. Pat. Nos. 5,984,967 and 5,397,264, each of which is incorporated herein by reference in its entirety.

Detail Description Paragraph - DETX (14):

[0031] Referring now to FIG. 4, there is shown another embodiment implant 80 for use in vertebral fusion procedures having particular application in the lumbar region of the spine. Implant 80 has a rigid body portion 82 extending between a leading end 90 and a trailing end 92. A number of threads 88 can be